AMENDMENTS TO THE SPECIFICATION

Applicants respectfully request that the following amendments be made to the specification.

Please replace paragraph 0131 with the following paragraph:

> Fig. 14B is a schematic representation of secondary folding of hairpins of the operon-like cluster of Fig. 14A. The hairpins shown are as follows N2 (SEQ ID NO: 4254760), N3 (SEQ ID NO: 4254761), MIR23 (SEQ ID NO: 4254762), GAM22 (SEQ ID NO: 4254763), GAM7617 (SEQ ID NO: 4254764), N252 (SEQ ID NO: 4254765), N4 (SEQ ID NO: 4254766), N0 (SEQ ID NO: 4254767), N6 (SEQ ID NO: 4254768), MIR24 (SEQ ID NO: 4254769), and N7 (SEQ ID NO: 4254770);

Please replace paragraph 0133 with the following paragraph:

> Fig. 15A is an annotated sequence of EST72223 (SEQ ID NO: 4254771) comprising known human microRNA oligonucleotide MIR98 and novel human oligonucleotide GAM25 PRECURSOR detected by the oligonucleotide detection system of the present invention.~~; and~~ Additionally annotated in EST72223 are the miRNA-98 hairpin in bold (SEQ ID NO: 4254772), the sequence of the mature miRNA-98 in bold and underline (SEQ ID NO: 4254773), the sequence of the GAM25 hairpin in bold (SEQ ID NO: 4254774), and the sequence of the mature miRNA of GAM25 in bold and underline (SEQ ID NO: 4254775).

Please replace paragraph 0138 with the following paragraph:

> Fig. 17C is a flowchart illustrating a mode of preparation and amplification of a cDNA library in accordance with a preferred embodiment of the present invention.~~;~~ Shown in Fig. 17C are the following adapters: 5Ada RNA-DNA XbaBSerI (SEQ ID NO: 4254776) and T7 NcoI RNA-DNA 3'Adapator (SEQ ID NO: 4254777).

Please replace paragraph 0286 with the following paragraph:

> The sequence presented in Row 29 is a representative of the group of five GAM RNAs. The full list of GAM RNA sequences and their corresponding precursors is as follows (each GAM RNA sequence is followed by the GAM Name): TCACTGCAACCTCCACCTCCCA (SEQ ID NO: 4254782) (352092, 352651, 355761), TCACTGCAACCTCCACCTCCCG (SEQ ID NO: 4254783) (351868,

352440, 351973, 352169, 352445, 358164, 353737, 352382, 352235, 352232, 352268, 351919, 352473, 352444, 353638, 353004, 352925, 352943), TCACTGCAACCTCCACCTCCTG (SEQ ID NO: 4254784) (358311), TCACTGCAACCTCCACCTTCAG (SEQ ID NO: 4254785) (353323), and TCACTGCAACCTCCACCTTCCG (SEQ ID NO: 4254786) (353856).

Please replace paragraph 0301 with the following paragraph:

Two types of cDNA libraries, designated "One-tailed" and "Ligation", were prepared from the one of the abovementioned fractionated RNA samples. RNA was dephosphorylated and ligated to an RNA (designated with lowercase letters)-DNA (designated with UPPERCASE letters)hybrid 5'-phosphorylated, 3'idT blocked 3'-adapter (5'-P-uuuAACCGCATCCTTCTC-idT-3' (SEQ ID NO: 4254787) Dharmacon #P-002045-01-05)(as elaborated in Elbashir et al., Genes Dev. 15:188-200 (2001)) resulting in ligation only of RNase III type cleavage products. 3'-Ligated RNA was excised and purified from a half 6%,half 13% polyacrylamide gel to remove excess adapter with a Nanosep 0.2 microM centrifugal device (Pall) according to instructions, and precipitated with glycogen and 3 volumes of ethanol. Pellet was resuspended in a minimal volume of water.

Please replace paragraph [0302] with the following paragraph:

For the "Ligation"library,a DNA (UPPERCASE)-RNA (lowercase) hybrid 5'-adapter (5'-TACTAATACGACTCACTaaa-3' (SEQ ID NO: 4254788) Dharmacon #P-002046-01-05)was ligated to the 3'-adapted RNA,reverse transcribed with "EcoRI-RT":(5'-GACTA GCTGGAATTCAAGGATGCGGTTAAA-3') (SEQ ID NO: 4254789), PCR-amplified with two external primers essentially as in Elbashir et al. (2001),except that primers were "EcoRI-RT"and "PstI Fwd"(5'-CAGCCAACGCTGCAGATACGACTCACTAAA-3'). (SEQ ID NO: 4254790) This PCR product was used as a template for a second round of PCR with one hemispecific and one external primer or with two hemispecific primers.

Please replace paragraph [0303] with the following paragraph:

For the "One-tailed" library, the 3'-adapted RNA was annealed to 20pmol primer "EcoRI RT"by heating to 70 C and cooling 0.1 C/sec to 30 C and then reverse-transcribed with Superscript II RT (according to manufacturer's instructions, Invitrogen) in a 20 microliters volume for 10 alternating 5 minute cycles of 37 C and 45 C. Subsequently, RNA was digested with 1 microliter 2M NaOH and 2mM EDTA at 65 C for 10 minutes. cDNA was loaded on a polyacrylamide gel, excised and gel-

purified from excess primer as above (invisible, judged by primer run alongside) and resuspended in 13 microliters of water. Purified cDNA was then oligo-dC tailed with 400U of recombinant terminal transferase (Roche Molecular Biochemicals), 1 microliter 100 microM dCTP,1 microliter 15mM CoCl2,and 4 microliters reaction buffer,to a final volume of 20 microliters for 15 minutes at 37 C. Reaction was stopped with 2 microliters 0.2M EDTA and 15 microliters 3M NaOAc pH 5.2.Volume was adjusted to 150 microliters with water, Phenol: Bromochloropropane 10:1 extracted and subsequently precipitated with glycogen and 3 volumes of ethanol. C-tailed cDNA was used as a template for PCR with the external primers "T3-PstBsg(G/I)18"(5'-AATTAACCCTCACTAAAGGCTGCAGGTGCAGGIGGGIIGGGIIGG GIIGN-3' (SEQ ID NO: 4254791) where I stands for Inosine and N for any of the 4 possible deoxynucleotides), and with "EcoRI Nested"(5'-GGAATTCAAGGATGCGGTTA-3') (SEQ ID NO: 4254792). This PCR product was used as a template for a second round of PCR with one hemispecific and one external primer or with two hemispecific primers.

Please replace paragraph 0305 with the following paragraph:

Hemispecific primers were constructed for each predicted GAM RNA oligonucleotide by an in-house program designed to choose about half of the 5'or 3'sequence of the GAM RNA corresponding to a TM of about 30 -34 C constrained by an optimized 3'clamp,appended to the cloning adapter sequence (for "One-tailed"libraries,5'-GGNNGGGNNG (SEQ ID NO: 4254793) on the 5'end or TTTAACCGCATC-3' (SEQ ID NO: 4254794) on the 3'end of the GAM RNA; for "Ligation"libraries, the same 3'adapter and 5'-CGACTCACTAAA (SEQ ID NO: 4254795) on the 5'end of the GAM RNA). Consequently, a fully complementary primer of a TM higher than 60 C was created covering only one half of the GAM RNA sequence permitting the unbiased elucidation by sequencing of the other half.

Please replace paragraph 0330 with the following paragraph:

Transcript products were 705 nt (EST72223),102 nt (MIR98 precursor),125 nt (GAM25 precursor)long.EST72223 was PCR-amplified with T7-EST 72223 forward primer: 5'-TAATACGACTC ACTATAGGCCCTTATTAGAGGATTCTGCT-3' (SEQ ID NO: 4254796) and T3-EST72223 reverse primer: "-AATTAACCCTCACTAAAGGTTTTTTTTTCCTGAGACAGAGT-3' (SEQ ID NO: 4254797). MIR98 was PCR-amplified using EST72223 as a template with T7MIR98 forward primer: 5'-TAATACGACTCACTATAGGGTGAGGTAGTAAGTTGTATTGTT -3' (SEQ ID NO: 4254798) and T3MIR98 reverse primer: 5'-AATTAACCCTCACTAAAGGGAAAGTAGTAAGTTGTATA GTT-3' (SEQ ID NO: 4254799). GAM25 was PCR-amplified using EST72223 as a template with GAM25 forward primer:

5'-AGGCAGGAGAATTGCTTGA-3' (SEQ ID NO: 4254800) and T3-EST72223 reverse primer: 5'-AATTAACCCTCACTAAAGGCC TGAGACAGAGTCTTGCTC- 3' (SEQ ID NO: 4254801).

Please replace paragraph 0333 with the following paragraph:

Reference is now made to Fig.16A,which depicts a first method that uses primers designed to the stems of the hairpins. Since the stem of the hairpins often has bulges, mismatches, as well as G-T pairing, which is less significant in DNA than is G-U pairing in the original RNA hairpin,the primer pairs were engineered to have the lowest possible match to the other strand of the stem. Thus, the F-Stem primer, derived from the 5'stem region of the hairpin, was chosen to have minimal match to the 3'stem region of the same hairpin. Similarly,the R-stem primer, derived from the 3'region of the hairpin (reverse complementary to its sequence),was chosen to have minimal match to the 5'stem region of the same hairpin. The F-Stem primer was extended in its 5'sequence with the T3 primer (5'-ATTAACCCTCACTAAAGGGA-3') (SEQ ID NO: 4254802) and the R-Stem primer was extended in its 5'sequence with the T7 primer (5'-TAATACGACTCACTATAGGG) (SEQ ID NO: 4254803).The extension is needed to obtain a large enough fragment for direct sequencing of the PCR product. Sequence data from the amplified hairpins is obtained in two ways.One way is the direct sequencing of the PCR products using the T3 primer that matches the extension of the F-Stem primer. Another way is the cloning of the PCR products into a plasmid, followed by PCR screening of individual bacterial colonies using a primer specific to the plasmid vector and either the R-Loop (Fig.16B)or the F-Loop (Fig.16C) primer. Positive PCR products are then sent for direct sequencing using the vector-specific primer.

Please replace paragraph 0394 with the following paragraph:

Sequence: 5'(5phos)rUrGrGCCTATAGTGAGTCGTATTA (SEQ ID NO: 4254806) (3InvdT)3'

Please replace paragraph 0396 with the following paragraph:

Sequence: 5'AAAGGAGGAGCTCTAGrArUrA 3' (SEQ ID NO: 4254807) or optionally:

Please replace paragraph 0398 with the following paragraph:

Sequence: 5'CCTAGGAGGAGGACGTCTGrCrArG 3' (SEQ ID NO: 4254808)

Please replace paragraph 0400 with the following paragraph:

Sequence: 5'(5phos)rCrCrUATAGTGAGTCGTATTATCT (3InvdT) 3' (SEQ ID NO: 4254809)

Please replace paragraph 0403 with the following paragraph:

Sequence: 5'TAATACGACTCACTATAGGCCA 3' (SEQ ID NO: 4254810)

Please replace paragraph 0405 with the following paragraph:

Sequence: 5'GCTAGCACTAGTTAATACGACTCACTATAGGCCA 3' (SEQ ID NO: 4254811)

Please replace paragraph 0407 with the following paragraph:

Sequence: 5'AAAGGAGGAGCTCTAGATA 3' (SEQ ID NO: 4254812)

Please replace paragraph 0409 with the following paragraph:

Sequence: 5'TGACCTGCAGAAAGGAGGAGCTCTAGATA 3' (SEQ ID NO: 4254813)

Please replace paragraph 0412 with the following paragraph:

Sequence: 5'ATCCTAGGAGGAGGACGTCTGCAG 3' (SEQ ID NO: 4254814)

Please replace paragraph 0414 with the following paragraph:

Sequence: 5'GCTCTAGGATAATACGACTCACTATAGG 3' (SEQ ID NO: 4254815)